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IN

# AGRICULTURAL ENGINEERING

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## Accidents.

Looking for trouble. Successful Farming. v. 36, no. 9. September 1938. p. 10. Illustrations.

Manual of accident prevention in construction. 2d ed. rev. Washington, D.C., Associated general contractors of America, inc., 1938. 372 p.

## Agriculture.

Agricultural statistics, 1938. Washington, U.S. Govt. print. off., 1938. 544 p. U.S. Department of agriculture.

Forty-fourth annual report, Agricultural experiment station, University of Minnesota, July 1, 1936 to June 30, 1937. St. Paul, Minn., 1937. 91 p.

Graphic summary of agricultural credit. By N.J. Wall, and E.J. Enquist, jr. Washington, U.S. Govt. print. off., 1938. 48 p. U.S. Department of agriculture. Miscellaneous publication no. 268.

How the experiment stations are aiding low-income farmers. Experiment station record. v. 79, no. 5. November 1938. p. 433-435.

## Air Conditioning.

Fundamental concepts of air conditioning. By R.L. Perry. Agricultural Engineering. v. 19, no. 10. October 1938. p. 429-430, 434.

## Building Construction.

Building regulations in the United States. By Robins Fleming. Civil Engineering. v. 8, no. 11. November 1938. p. 730-732. Bibliography. Reviews development, its purpose and sponsors, with something of present trends.

Simplified engineering for architects and builders. By Harry Parker. New York, John Wiley & Sons, inc., 1938. 214 p.

## Building Materials.

Plywood makes a building. By E.H. Horn. Engineering News-Record. v. 121, no. 18. November 3, 1938. p. 551-555. Laminated arches and wall and roof units built on stressed covering principle are pre-fabricated for school gymnasium.

Cold Storage.

Cold storage of fruits and vegetables. Ice and Refrigeration. v. 95, no. 4. October 1938. p. 273-277. Part 2.

Cold storage of fruits and vegetables. Ice and Refrigeration. v. 95, no. 5. November 1938. p. 350-354. Part 3.

Concrete.

Effect of using a blend of Portland and natural cement on the physical properties of mortar and concrete. By W.F. Kellermann and D.G. Runner. Public Roads. v. 19, no. 8. October 1938. p. 153-166. Paper reports results of study as well as results of series of freezing and thawing tests on specimens taken from certain of experimental pavements. Data on laboratory fabricated specimens are presented in two sections, first dealing with tests of mortars and second with concretes. Results of freezing tests on concrete cores are discussed in a third section.

Conservation of Resources.

Report on water use and conservation in...Iowa river basins. Iowa City, Ia., Water resources committee, Iowa State planning board, 1936. v. 3 and 4. Processed. v. 3 - South central Iowa river basins. v. 4 - Northeastern Iowa river basins.

Corrosion.

Measuring the growth and scale resistance of cast iron, with results of tests on certain types of iron. By A.H. Dierker and H.H. Dawson. In Engineering Experiment News. Ohio State University. v. 10, no. 4. October 1938. p. 25-32. Primary object of this investigation was to develop method of measuring growth and scale formation of sufficient accuracy to permit comparative tests of irons of different compositions.

Cotton.

An American income for cotton. Adapted from an address by H.A. Wallace. ....Fort Worth, Texas, September 30, 1938. Washington, U.S. Govt. print. off., 1938. 16 p. U.S. Department of agriculture. Agricultural adjustment administration. General information series. G-90.

Facts about cotton. Prepared in the Bureau of agricultural economics. Washington, U.S. Govt. print. off., 1938. 7p. U.S. Department of agriculture. Bureau of agricultural economics. Leaflet no. 167.

Cotton Gins and Ginning.

Ginning and storage of cotton. By J.E. Stanford. Farmers' Digest. v. 2, no. 5. September 1938. p. 86-87.

Gins equipped with driers show smaller below normal preparation. Cotton Ginners' Journal. v. 10, no. 1. October 1938. p. 16.

Cotton Machinery.

Cotton harvesting and handling. By F.L. Gerdens, W.J. Martin and C.A. Bennett. Cotton Ginner's Journal. v. 10, no. 1. October 1938. p. 7, 10-12.

Overhead cleaner drying systems for seed cotton. By C.A. Bennett. Washington, U.S. Govt. print. off., 1938. 20 p. U.S. Department of Agriculture. Miscellaneous publication no. 314.

Dams.

Dam construction in China. By C.A. Middleton Smith. Electrical Review. v. 123, no. 3173. September 16, 1938. p. 383-384. Adoption of modern methods.

Drainage.

Drainage basin study of Pennsylvania. Harrisburg, Pa., Pennsylvania State planning board. 1937. 3 v. Mimeographed. Part I: Delaware, Lehigh and Schuylkill rivers. Part II: Susquehanna, Potomac, Genesee rivers and Chesapeake bay. Part III: Upper Ohio and Beaver rivers and Lake Erie. Pennsylvania state planning board. Publication no. 10.

Drainage of irrigated lands. By A.W. Walker. Civil Engineering. v. 8, no. 11. November 1938. p. 733-734. Throughout arid regions, irrigators must be constantly alert to "Alkali problem" accumulation in the soil of soluble salts that render it sterile. In some cases, protracted period of leaching will restore fertility; in other, local applications of chemicals have proved effective. Oftentimes drainage system may be required, in addition, to induce essential downward movement of water through the soil. All these points are discussed.

Drained vs. undrained land. In Experimental station, Ste. Anne de la Pocatiere, Que. Progress report of the superintendent for the years 1931-1936. 1938. p. 30-31.

Indications point to urgent need for drainage because the weather may be shifting from a dry to a wet cycle. By L.F. Livingston. Agricultural News Letter (du Pcnt) v. 6, no. 10. October 1938. p. 141-142.

Land drainage. In Experimental station, Kapuskasing, Ont. Results of experiments 1931-1936. 1938. p. 6.

Drying (Crops)

Corn drying. By F.E. Price and Ivan Branton. Corvallis, Oreg. 1937. 30 p. Oregon. Agricultural experiment station. Station bulletin no. 352.

Drying (Crops) (Cont'd)

Dried Italian prune products. By E.H. Wiegand and K.P. Fenner. Corvallis, Oreg., 1938. 25p. Oregon state college. Agricultural experiment station. Bulletin 353. Bibliography: p. 25.

Gegenwartige entwicklungstand der verfahrenstechnik der trocknung des grunfutters. By H.V. Sybel. Technik in der Landwirtschaft. v. 19. Sept. 1938. p. 131-135. Illustrations. Present status of development of forage drying process.

Grunfuttertrockner im Auslande. By H. Von Sybel and R. Poggensee. Technik in der Landwirtschaft. v. 19. Sept. 1938. p. 149-153. Bibliography: p. 152-153. Illustrations. Forage drying abroad.

Electric Wiring.

Wired labor vs. tired labor. By E.R. McIntyre. Wisconsin Agriculturist and Farmer. v. 65, no. 20. September 24, 1938. p. 5, 19. New York state's electric proving farm shows how modern service saves time

Electricity-Distribution.

Electrical distribution. East Pittsburgh, Pa., Industrial relations department, Westinghouse electric & manufacturing company, 1938. 10 nos. Processed. Bibliography at end of each number. Westinghouse extension course no. 18.

Rural network protection. By T.C. Gilbert. Electrical Review. v. 122, no. 3177. October 14, 1938. p. 539-540. Comparison with German methods.

Electricity on the Farm.

Profile of farm electrification in America. By G.A. Rietz. Agricultural Engineering. v. 19, no. 10. October 1938. p. 423-427.

Rural electrification in the Northwest. By Berkeley Snow. Edison Electric Institute Bulletin. v. 6, no. 9. September 1938. p. 406-410.

Erosion Control.

Annotated compilation of the soil conservation and domestic allotment act, as amended, Agricultural adjustment act of 1938, as amended and acts relating thereto as of close of third session of seventy-fifth Congress. June 16, 1938. Washington, D.C., U.S. Govt. print. off., 1938. 73 p. U.S. Department of agriculture. Agricultural adjustment administration.

Erosion on roads and adjacent lands. By A.M. Davis. Washington, D.C. U.S. Govt. print. off., 1938. 8 p. U.S. Department of agriculture. Leaflet no. 164.

Erosion Control. (Cont'd)

Erosion problem confronts Hawaii. By N.E. Winters. Soil Conservation. v. 4, no. 4. October 1938. p. 101-103.

Soil conservation districts; How farmers can organize them; How they help control erosion. Madison, Wis., 1938. 22 p. University of Wisconsin. College of agriculture. Extension service. Circular 290.

Soil conservation in ancient Peru. By D.R. Wickes and W.C. Lowdermilk. Soil Conservation. v. 4, no. 4. October 1938. p. 91-94. References.

Soil defense in the South. By E.M. Rowalt. Washington, U.S. Govt. print. off., 1938. 64 p. U.S. Department of agriculture. Farmers' bulletin no. 1809.

To hold this soil. By Russell Lord. Washington, U.S. Govt. print. off., 1938. 122 p. U.S. Department of agriculture. Miscellaneous publication no. 321. "Recommended reading": at end.

Farm Machinery and Equipment.

Husking hybrids with machines. Wallaces' Farmer. v. 63, no. 17. August 13, 1938. p. 554-562. The Department summarizes advantages of machine picking as follows: 1. Mechanical picker reduces amount of labor under that needed in hand husking. 2. Husking may be started earlier and completed in shorter time. 3. Work is easier and more pleasant. 4. Larger acreage of corn can be handled with given amount of labor.

New corn harvesting machinery. Southern Planter. v. 99, no. 10. October 1938. p. 4. Illustrations.

Report on agricultural implement and machinery industry: Part 1. Concentration and competitive methods. Part 2. Costs, prices and profits. Washington, U.S. Govt. print. off., 1938. 1176 p. U.S. Congress. 75th, 3d sess. House document no. 702.

Sales outlook of agricultural machinery good. Implement & Tractor. v. 53, no. 20. October 1, 1938. p. 28. Predicts that this year's sales will be about 5 percent farmer's gross income of \$7,500,000,000, and that upswing in general business will be reflected by improvement in farm sentiment resulting in even higher figure for 1939.

Will this machine eat up Mormon crickets? Washington Farmer. v. 63, no. 20. September 29, 1938. p. 5. Inside outfit is "auger-spoon" fan that creates violent whirlwind to provide suction. Fan is operated by four horse power gas engine. 12-foot nozzle travels close to ground. Objects, such as crickets, that are picked up do

Farm Machinery and Equipment. (Cont'd)

not strike the fan blades but are whammed against a "destruction plate" and cast inside. It is possible to inject vaporized liquid poison into fan housing and thus leave effective poison bait for Mormon crickets that follow and feed upon their unfortunate brothers. Machine operates at about five miles an hour when mounted on truck with power take off.

Farm Plan.

Improving Colorado home grounds. By G.A. Beach. Fort Collins, Colo., 1938. 49 p. Colorado state college. Colorado experiment station. Bulletin 445.

Making the farm grounds attractive. By J.M. Rocheford and Madonna Fitzgerald. Columbia, Mo., 1938. 18 p. University of Missouri. Agricultural extension service. Circular 390.

Farm Repair Shop.

Equipping the repair shop. Farm Implement News. v. 59, no. 20. October 6, 1938. p. 32, 34.

Trends in farm shop instruction. By G.F. Ekstrom. Better Farm Equipment and Methods. v. 11, no. 2. October 1938. p. 3.

Feed Grinders and Grinding.

Hay choppers find year around job. By G.E. Jordan. Farmers Digest. v. 2, no. 5. September 1938. p. 69-70.

Fertilizer Placement.

Do a good job when drilling fertilizer. By R.L. Cook. Farmers Digest. v. 2, no. 5. September 1938. p. 31, 36. Table 1. For calibrating grain drills to apply fertilizer for small grains or row crops. Table 2. For Calibrating row crop fertilizer distributors. Table 3. For calibrating lime distributors.

Fertilizer.

Proceedings of the fourteenth annual convention of National fertilizer association held at White Sulphur Springs, W. Va., June 6, 7, and 8, 1938. Washington, D.C., the Association, 1938. 119 p.

What are fertilizers? Farmers Digest. v. 2, no. 5. September 1938. p. 58-61.

Fireplaces.

Another outdoor stove! By A.W. MacMillan. American Home. v. 20, no. 3. August 1938. p. 14, 60.

Flax.

Cost and efficiency in fiber-flax production in the Willamette valley, Oregon. By G.W. Kuhlman and B. B. Robinson. Corvallis, Oreg., 1938. 25 p. Oregon state college. Agricultural experiment station. Bulletin 354.

Floods and Flood Control.

Flood control planned in New England. Engineering News-Record. v.121, no. 14. October 6, 1938. p. 418. Army and FPC recommend expenditure of \$11,000,000 during this fiscal year on flood control.

Floods in river valleys. By W.G. Bowman. Engineering News-Record. v. 121, no. 14. October 6, 1938. p. 427-430.

Floors.

Out of the mud. Successful Farming. v. 36, no. 11. November 1938. p. 16. Concrete feeding floors are easily built and will keep good dollars from sinking into the mire.

Flumes.

Silt-eliminating flume for high silt content water. Public Works. v. 69, no. 6. June 1938. p. 15-16. Plan consists essentially of low diversion weir across river in order to present least possible obstruction to natural flow, headgates built with sill elevation somewhat higher than sluice gates immediately below, this in order that the bed load of sand might not drift into canal. Settling basin 200 feet wide, sixteen feet deep and 10,000 feet long in which velocity of flow is kept to .75 foot per second or one third velocity in main canal. Experiments indicate that 75 percent of silt and all of sand bed load of water will be deposited in settling basin. Silt and sand deposited in settling basin is removed by floating, 28-inch suction dredge, electrically operated with power furnished from the District's plants.

Heating.

Automatic heat with oil burning stoves. Southern Planter. v. 99, no. 10. October 1938. p. 24-25.

Heating the small greenhouse. By John Cooper. Rural Electrification and electro farming. v. 14, no. 160. September 1938. p. 54-56. Electrical method both reliable and economical.

Operate your furnace economically. Consumers' Digest. v. 4, no. 4. October 1938. p. 24-31.

Three requirements for keeping house warm. Science News Letter. v. 34, no. 16. October 15, 1938. p. 249. Effective and uniform heating, ventilation and economy are three requirements that must be considered in plans for heating home in winter.

## Heating. (Cont'd)

Three requirements for keeping house warm. Science News Letter. v. 34, no. 16. October 15, 1938. p. 249. Effective and uniform heating, ventilation and economy are three requirements that must be considered in plans for heating home in winter.

## Insect Control.

Control of insects attacking grain in farm storage. By R.T. Cotton. Washington, D.C. U.S. Govt. print. off., 1938. 1 $\frac{1}{4}$  p. U.S. Department of agriculture. Farmers' bulletin no. 1811.

## Insulation.

How much fuel window conditioning saves. By T.S. Rogers. American Lumberman. v. 65, no. 3132. August 13, 1938. p. 55. Figures show amount of fuel saved for each square foot of window area insulated with double-glass under average conditions.

Insulation of radiant heat. By S.R. Cook. Ice and Refrigeration. v. 95, no. 5. November 1938. p. 307-309.

Low temperature insulation tests. By F.G. Hechler. Ice and Refrigeration. v. 95, no. 4. October 1938. p. 242-246.

Refrigeration insulation. By H.B. Lindsay. Cold Storage and Produce Review. v. 41, no. 486. September 15, 1938. p. 236-238.

To insulate or not to insulate. Brick and Clay Record. v. 93, no. 4. October 1938. p. 24-26. Insulation of homes has been oversold--many forget losses of heat through windows, cracks, ceiling--masonry wall gives good insulation.

Window conditioning campaign forecasts upturn in business. American Lumberman. v. 65, no. 3132. August 13, 1938. p. 54-55.

## Irrigation.

Rainstorms on tap. By I. M. Howard. Successful Farming. v. 36, no. 10. October 1938. p. 18, 44-45. Gives ideal layout for farm-pond dam and watering-trough unit supplied by it.

## Labor.

Labor requirements for crop production in Ohio. By R.H. Baker. Columbus, O., 1938. 28 p. Mimeographed. Ohio state university. Agricultural experiment station. Department of rural economics. Mimeograph bulletin no. 115.

## Land Utilization.

Economic study of land utilization in southern Alberta. G.H. Craig and J. Coke. Ottawa, Canada, 1938. 79 p. Dominion of Canada. Department of agriculture. Technical bulletin 16.

### Land Utilization. (Cont'd)

Land utilization program in the Southern Great Plains. By E.D.G. Roberts. Science. v. 88, no. 2283. September 30, 1938. p. 289-292. Presents outline of chain of circumstances which have transformed some of finest grazing land in country into what is now being called "dust bowl."

Study of land utilization in Newport and Bristol counties, Rhode Island. By B.E. Gilbert. Kingston, R.I., 1938. 40 p. Rhode Island state college. Agricultural experiment station. Bulletin 268.

### Lighting.

Illumination. East Pittsburgh, Pa., Industrial relations department, Westinghouse electric & manufacturing company. 1934. 206 p. Processed. "References" at end of most of the assignments. Westinghouse extension course no. 11.

Lighting for low cost housing. By J.E. Ives. Washington, D.C., U.S. Govt. print. off., 1938. 8 p. U.S. Public health service. Reprint no. 1940 from Public health reports. v. 53, no. 22. June 3, 1938. p. 895-901.

### Lightning.

Lightning protection. East Pittsburgh, Pa., Educational department, Westinghouse electric & manufacturing company. 1933. 4 incs. Processed. Bibliography: no. 1, v-vi. Westinghouse extension course no. 8.

### Lubrication.

Testing of hypoid lubricants. By C.F. Prutton and A.O. Willey. S.A.E. Journal. v. 43, no. 2. August 1938. p. 325-334. Performance of several recognized commercial types of hypoid lubricants has been studied and comparison made of number of test methods including: film strength machine tests; various types of continuous-load tests; laboratory shock tests; and road shock tests. This work has been in progress for more than fifteen months, has involved more than 50 lubricants, and more than 150 individual gear tests, each test requiring use of new set of gears. Results of these tests indicate deficiencies in some of lubricants under certain of extreme conditions employed. Of commercial lubricants studied, those that passed laboratory shock test lubricate hypoids quite satisfactorily under practically all other test conditions where normal temperatures were used. Performance of lubricants in gear tests seems to bear but slight relation to film-strength data as obtained on laboratory test machines.

### Maps.

Map collections in District of Columbia. Prepared by Geological survey for Federal board of surveys and maps..... Washington, D.C. Map information office, Federal board of surveys and maps, 1938. 50 p. Mimeographed.

### Milk Cooling.

Requirements of farm electric milk coolers. By J.E. Nicholas. Ice and Refrigeration. v. 95, no. 5. November 1938. p. 324-326. Discussion of means and methods for cooling and holding milk at point of production. Types of milk coolers. Principal requirements of farm electric coolers.

### Miscellaneous.

Report on progress of WPA program, June 30, 1938. Washington, U.S. Govt. print. off., 1938. 147 p.

Role of pure science. By R.W. Gerard. Science. v. 88, no. 2286. October 21, 1938. p. 361-368.

Standard filing system and alphabetical index for filing information on building materials and appliances. Washington, D.C., American Institute of Architects, 1937. 47 p. A.I.A. Document no. 172.

What is the "American way"? By H.L. Hopkins. Washington, U.S. Govt. print. off., 1938. An address delivered at the Chautauqua, N.Y. July 16, 1938.

### Motor Fuel.

Cooperative fuel research motor gasoline survey, winter 1937-38. Comp. by E.C. Lane. Washington, U.S. Bureau of mines, 1938. 29 p. Processed.

Solid fuel for motor transport. By G.E. Foxwell. Engineering. v. 146, no. 3791. September 9, 1938. p. 299-300. Advantage of using solid fuel is primarily reduced cost to user. System involves generation of producer gas from suitable fuel, cleaning of gas from suitable fuel, cleaning of gas from dust and sulphur, and its subsequent combustion under suitable conditions in engine. Experience has now extended to sufficient time to show that vehicles fitted with these devices are as reliable and as simple to operate as petrol bus, lorry, or private car.

Wood and charcoal as motor fuels. Engineering. v. 146, no. 3790. September 2, 1938. p. 288.

### Motors, Electric

Selection and care of electric motors for farm use. By Andrew Hustrulid. St. Paul, Minn., 1938. University of Minnesota. Agricultural extension division. Agricultural engineering news letter no. 79.

Synchronous motors. East Pittsburgh, Pa., Educational department, Westinghouse electric & manufacturing company. 1934. 7 nos. Processed. Bibliography at end of each month except 5. Westinghouse extension course no. 14.

Motors, Electric (Cont'd)

Transformers. Westinghouse electric & manufacturing company. East Pittsburgh, Pa., Industrial relations department, Westinghouse electric & manufacturing company, 1937. 249 p. Processed. Bibliography. Westinghouse extension course 4.

Pipes and Piping.

Concrete pipe in American sewerage practice. Ed. by M.W. Loving. Chicago, Ill., American concrete pipe association, 1938. 96 p. Bulletin 17.

Plumbing.

Standard plumbing details for architects, engineers, contractors, plumbers and students. By L.J. Day. New York, John Wiley & sons, inc., 1938. 119 p.

Potatoes.

Growing better potatoes in Colorado. By C.H. Metzger. Fort Collins, Colo., 1938. 127 p. Colorado state college. Colorado experiment station. Bulletin 446.

Power.

Power factor correction. East Pittsburgh, Pa., Industrial relations department, Westinghouse electric & manufacturing company. 1934. 4 nos. Processed. Bibliography at end of each number. Westinghouse extension course 1.

Refrigerants.

Natural carbon dioxide gas--The West discovers a new resource. Ice and Refrigeration. v. 95, no. 4. October 1938. p. 230-232. Solid carbon dioxide now being produced from natural supplies of nearly pure carbon dioxide gas. Discussion of the more important producing fields. Lower prices bring increased uses.

Refrigeration.

Absorption refrigeration. By J.C. Bertsch. Ice and Refrigeration. v. 95, no. 4. October 1938. p. 223-229.

Food freezing--Engineered for quality and economy. By W.J. Finnegan. Ice and Refrigeration. v. 95, no. 5. November 1938. p. 355-361.

Freezing vegetables. Description of the vacuum quick-freezing process used by California Consumers Corp. Ice and Refrigeration. v. 95, no. 4. October 1938. p. 279-280.

Refrigerator Lockers.

Advancement in locker plant equipment. By E.L. Mohr. Refrigeration Engineering. v. 36, no. 4. October 1938. p. 239-241.

Cold storage locker development in Minnesota. By R.J. Eggert. Refrigeration Engineering. v. 36, no. 4. October 1938. p. 242-266.

Freezing of fruits and vegetables in lockers. By D.K. Tressler. Refrigeration Engineering. v. 36, no. 4. October 1938. p. 233-235. Vegetables are prepared as for table, scalded, cooled in running water, drained, packaged, and frozen. That's all there is to processes, and results are gratifying provided care is taken in selecting first-class products and there are no delays at any stage of process. In general, freezing is simpler than canning for it is not necessary to sterilize products. It is author's opinion that any one who is willing to follow directions can prepare excellent frozen fruits and vegetables.

New Kansas cold storage locker plant draws many town customers. Ice and Refrigeration. v. 95, no. 5. November 1938. p. 365-366.

Refrigerated food locker plants. By L.B. Mann. Refrigeration Engineering. v. 36, no. 4. October 1938. p. 227-229, 266. Organization, financing and operating problems.

Refrigeration equipment for cold storage locker plants. By F.E. Hartmann. Refrigeration Engineering. v. 36, no. 4. October 1938. p. 230-232.

Rise of cold storage lockers and locker plants. By P.E. Thomas. Ice and Refrigeration. v. 95, no. 4. October 1938. p. 289-293. Brief outline of this new development in refrigeration field. A survey of its possibilities and probable future expansion.

Storage locker business. By W.E. Guest. Refrigeration Engineering. v. 36, no. 4. p. 236-238. Pitfalls and triumphs in a lively new industry.

Research.

What industry expects of public research agencies. By H.W. Gerlach. Agricultural Engineering. v. 19, no. 10. October 1938. p. 433-434. Job of research engineer at public institution might be (1) developing better use of already existing agricultural machines and (2) studying operations now done by laborious or inefficient processes that might be improved upon modification of old or by development of new mechanization.

Rice.

Rice culture in Southern States. By J.W. Jones and others. Washington, U.S. Govt. print. off., 1938. 28 p. U.S. Department of agriculture. Farmers' bulletin no. 1808.

### Septic Tanks.

Septic tank for farm house. By H.L. Belton and J.P. Fairbank. Berkeley, Calif., 1938. 21 p. University of California. Agricultural extension service. Circular 82, rev.

### Sewage and Sewage Disposal.

American sewerage practice. By Leonard Metcalf and Harrison P. Eddy. 2d ed. New York, McGraw-Hill book company, inc., 1928. 759 p. v. 1.- Design of sewers.

### Silk-Artificial

Synthetic silk. : Science. v.88, no.2283, September 30, 1938. Supplement, p.9. New artificial silk, superior to natural silk or any synthetic rayon in its fineness, strength and elasticity, was patented by late W.H. Carothers, chemist of E.I. du Pont de Nemours Company. Completely synthetic in their origin, new fibers can be easily drawn to size only one tenth diameter of natural silk filament, or in extreme case, to only one seventy-fifth the diameter. Yet new fiber shows tensile strength equal or better than that of silk. In some cases fibers are 150 percent stronger than silk.

### Silos.

Construction and use of the trench silo. J.A. Arey. Farmers' Digest. v. 2, no. 5. September 1938. p. 23-25.

### Silt.

Advance report on sedimentation survey of Hurley lake, Gettysburg, South Dakota, June 9-24, 1937. By L. M. Glymph, jr. In cooperation with South Dakota agricultural experiment station, Brookings, S. Dak., 1938. 17 p. U.S. Department of agriculture. Soil conservation service. Sedimentation studies. Division of research.

Advance report on sedimentation survey of Lake Eldorado, Eldorado, Kansas, April 20, to May 8, 1937. By V. H. Jones. In cooperation with Kansas agricultural experiment station, Manhattan, Kans. Washington, D.C., 1938. 14 p. Mimeographed. U.S. Department of agriculture. Soil conservation service. Sedimentation studies. Division of research.

Advance report on sedimentation survey of Lake Olathe, Olathe, Kansas, May 26 to June 4, 1937. By V.H. Jones. In cooperation with Kansas agricultural experiment station, Manhattan, Kansas. Washington, D.C., 1938. 14 p. Mimeographed. U.S. Department of agriculture. Soil conservation service. Sedimentation studies. Division of research.

Silt. (Cont'd)

More water and power, less silt for San Carlos project, Main Buttes dam objectives. Arizona Producer. v. 17, no. 3. September 15, 1938. p. 1, 23.

Settling basins found useful for preventing silt filling water storage ponds and water holes on farms and ranches. By L.F. Livingston. Agricultural News Letter (du Pont) v. 6, no. 11. November 1938. p. 157-158. Announcement of effective method of preventing rapid filling of earth water reservoirs with sediment should be of considerable interest to agricultural engineers, stockmen and farmers. Fact that settling pond can be cleaned out by blasting with dynamite helps make this method thoroughly practical.

Soil Moisture.

Field outfit for determining the moisture content of soils. By G.J. Bouyoucos. Soil Science. v. 46, no. 2. August 1938. p. 107-109. Purpose of this paper to present field outfit that has been devised, by means of which burning alcohol method can be conveniently used to determine moisture content of soils under field conditions.

Movement of water in heavy soils after irrigation. E.C. Childs. Soil Science. v. 46, no. 2. August 1938. p. 95-105. References. It is shown that diffusion can account for slow movements after irrigation and can be important in soil amelioration, but that during flooding such movements are masked by more rapid gravitational movement.

Soybeans.

Soybeans in Indiana. By K.E. Beeson. Lafayette, Ind., 1938. 16 p. Purdue university. Cooperative extension work in agriculture and home economics. Extension bulletin no. 231.

Sprays and Spraying Equipment.

Substitute spray materials. By S.I. McCrory and C.G. Vinson, Columbia, Mo., 1938. 11 p. University of Missouri. Agricultural experiment station. Research bulletin 292. "Literature cited": p. 11.

Storage of Farm Produce.

Apples can be stored at 35° F. By H.H. Plagge. Refrigerating Engineering. v. 36, no. 2. August 1938. p. 89-91. Report of new investigations at Iowa Agricultural experiment station on several varieties.

Control of moisture and temperature in potato storages. By A.D. Edgar. Agricultural Engineering. v. 19, no. 9. September 1938. p. 399-400. Discusses basis for designs and operation of common potato storages adapted to regions where average winter temperature is from about 20° F downward. Discussion applies only to storage of late-crop potatoes in northern area.

Storage of Farm Produce. (Cont'd)

Crop storage on the farm. By H.B. White. Northwest Farm Equipment Journal. v. 52, no. 9. September, 1938. p. 34-35.

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